ISTEP+: Biology I
Blueprint

There are eight Indiana Standards for Biology I. All eight standards are grouped into five reporting categories for reporting student achievement.

Reporting Category	Description	Percent Range *
Cellular Structure and Chemistry	**Standard 1: Cellular Chemistry** **Standard 2: Cellular Structure** Questions may include understanding the basic molecular structure and function of the four major categories of organic compounds essential to cellular function, describing how work done in cells is performed by a variety of organic molecules, and by understanding the features that are common to all cells and to contrast those with distinctive features that allow cells to carry out specific functions.	18-28%
Matter Cycles, Energy Transfer, and Interdependence	**Standard 3: Matter Cycles and Energy Transfer** **Standard 4: Interdependence** Questions may include understanding how the sun's energy is captured and used to construct sugar molecules that can be used as a form of energy or serve as building blocks of organic molecules, recognizing how matter and energy cycle through an ecosystem, and understanding the relationship between living and nonliving components of ecosystems and describing how that relationship is in flux due to natural changes and human actions.	18-28%
Genetics and the Molecular Basis of Heredity	**Standard 5: Molecular Basis of Heredity** **Standard 7: Genetics** Questions may include describing the basic structure of DNA and how this structure enables DNA to function as the hereditary molecule that directs the production of RNA and proteins, understanding that proteins largely determine the traits of an organism, and explaining how the genetic information from parents determines the unique characteristic of their offspring.	22-32%
Cellular Reproduction	**Standard 6: Cellular Reproduction** Questions may include explaining the process by which new cells are formed from existing cells, understanding how in multicellular organisms groups of cells cooperate to perform essential functions within the organisms, and describing the cellular processes that occur to generate natural genetic variations between parents and offspring.	8-18%
Evolution	**Standard 8: Evolution** Questions may include describing how biochemical, fossil, anatomical, developmental, and genetic findings are used to determine relationships among organisms and how those relationships are then used to produce modern classification systems and understanding how modern evolutionary theory provides an explanation of the history of life on Earth and the similarities among organisms that exist today.	8-18%

* This range represents the approximate emphasis for each reporting category on the assessment.